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TRANSACTIONS OF THE SOCIETY
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VOL. 12 — 23RD NOVEMBER, 1956 — PART 4

A REVIEW OF THE BRITISH SUBFAMILIES AND GENERA OF THE FAMILY MUSCIDAE (DIPTERA)

By E. C. M. D'ASSIS-FONSECA, B.Sc., F.R.E.S.

The exact status of the two families Muscidae and Anthomyiidae has never been properly established, and latterly continental authors have placed the whole of the species under the name Muscidae, with Anthomyiidae as a direct or partial synonym. In his recent work on the group, however, Hennig (1955) has proposed that the name Anthomyiidae be retained as a family to include those species in which the anal vein extends to the wing-margin, all the rest remaining in the Muscidae. The Anthomyiidae, as thus characterized, form a natural group (the Anthomyiinae of the present paper) and it may well be that Hennig's proposed arrangement will be generally adopted.

Certain groups of the British Muscidae have been satisfactorily dealt with over the past thirty-five years, and reliable tables for the identification of the species have been available to dipterists. Unfortunately, the student wishing to familiarize himself with this large and complex family has, up to the present, usually found difficulty in making use of the published tables, because he had no ready means of placing his captures in the correct group. The need for a work dealing with the family as a whole has long been recognized, and it is as a contribution towards filling this want that the present paper is published.

The Muscidae, together with the Tachinidae, Calliphoridae and Cordyluridae, belong to a major group known as the Calyptrata, recognized by the following combination of characters: a well developed cleft always present on the exterior (lateral) face of the second antennal segment, the transverse thoracal suture continuous across dorsum, and thorax with well differentiated posterior calli. Van Emden (1954) separates the four families of the Calyptrata as follows:

1. Hypopleuron in front of spiracle with a curved (concave towards front) row of setae.....2

— Hypopleuron in front of spiracle without a curved row of setae, at most with some irregularly arranged short fine hairs.....3

2. Postscutellum, a convex cushion-like fold without hairs or setae, immediately below the scutellum, well developed. If the inner margin of the lower (thoracal) squama diverges backwards from lateral margin of scutellum then first posterior cell not wider at apex than small crossvein is long.....TACHINIDAE

2. Postscutellum absent, indistinct or weakly developed; if rather well developed, the whole inner margin of lower squama diverging backwards from lateral margin of scutellum and at the same time first posterior cell twice as wide at apex as at small crossvein..... ..... CALLIPHORIDAE

3. Lower squama more or less conspicuous, though often much less projecting than upper one; in the latter case either the hind tibiae with distinct dorsal rows of decumbent black hairs which lie on two slight longitudinal ridges, or occiput black-haired.....MUSCIDAE

— Lower squama strongly reduced, not projecting, and forming only a membraneous fold. Hairs irregularly arranged on the evenly convex surface of hind tibiae. Occiput with more or less numerous whitish hairs. Head with broad frons in both sexes and without crossed bristles on frontalia. Abdomen almost always with 5 (6) exposed segments ..... CORDYLURIDAE

Collin (1948) has shown that the genera *Myiospila*, *Muscina* and *Graphomyia*, which, by reason of their possessing a discal vein curving forwards at wing-tip, have generally been included in the MUSCINAE, do not really belong to that subfamily. From certain characters in the early stages it appears evident that *Myiospila* is allied to *Hebecnema* and *Mydaea*, and should therefore be included in the MYDAEINAE. The other two genera, on the other hand, are not so easily placed, *Muscina* showing some affinity with both *Phaonia* and *Mydaea*, while *Graphomyia* shows a distinct relationship with more diverse and apparently quite unrelated groups. It appears possible that these two genera are representatives of two distinct subfamilies, but until their correct position has been established it seems advisable here to key them out in the Table of Subfamilies.

The three genera *Polietes*, *Pseudomorellia* and *Pseudophaonia*, which, on the strength of having a straight discal vein, together with the presence of one or more dorsal bristles on hind tibiae, have in the past been considered as belonging to the PHAONIINAE, are, in possessing a hairy pteropleuron combined with other characters, more correctly placed in the MUSCINAE.

The FUCELLINAE, a name which has been used by some authors to include a number of genera in which the males were supposed to possess a broad frons, would appear to be a subfamily of very doubtful status. The characters which have been used to distinguish it are clearly unsound, and those genera which have usually comprised it are here included in the ANTHOMYIINAE.

I. Table of Subfamilies

1. Species without proboscis or sternopleural bristles....GASTEROPHILINAE

— Proboscis, and at least one sternopleural bristle, well developed.....2

2. Pteropleuron with bristles or bristly-hairs on disc and palpi not conspicuously broadened, or if pteropleuron almost bare and palpi somewhat spatulate, then proboscis strongly chitinised, horny, not retractable into mouth-opening, with extremely small and inconspicuous terminal labellae, and at the same time discal vein curved forwards at wing-tip ..... MUSCINAE

2. Disc of pteropleuron bare, or if bearing a patch of bristly-hairs then palpi more or less strongly spatulate and discal vein straight; proboscis not horny, but retractable into mouth-opening, and always with distinct (though sometimes small) terminal labellae.....3

3. Three sternopleural bristles, all more or less well developed, lower one equidistant from the two upper ones (i.e. bristles arranged in an inverted isosceles triangle), occasionally (*Paracoenosia*) with a fourth weaker bristle below the front one, but in this case the three strong bristles still form an isosceles triangle; frons broad in both sexes and without crossed bristles on frontalia (the frontal stripe *between* orbits); humeri without trace of yellow.....COENOSIINAE

— When three sternopleural bristles present, lower one distinctly (usually much) nearer to upper hind one than to front one, or if arranged more or less in an isosceles triangle then either (*Chelisia monilis*) frontalia with distinct crossed bristles, or (*Piezura graminicola*) humeri entirely yellowish 4

4. Palpi more or less strongly spatulate; disc of pteropleuron with a cluster of bristly-hairs (sometimes reduced to 2-3 short ones) above upper hind sternopleural bristle.....LISPINAE
One genus—*Lispe* Latr.

— Palpi not or only slightly broadened; pteropleuron bare on disc, at most with an isolated bristle on upper margin behind.....5

5. Anal vein extending to wing-margin, even if only as a hair-fine line, or if abbreviated (*Chelisia monilis*) then a small greyish species with a broad brownish-black median thoracal stripe which extends to tip of scutellum; in doubtful cases with regard to anal vein pteropleuron with an isolated strong bristle on upper margin behind.....
..... ANTHOMYIINAE

— Anal vein not extending to wing-margin; median thoracal stripe, when present, not extending to tip of scutellum; pteropleuron without an isolated bristle on upper margin 6

6. Discal vein curved forwards at wing-tip and scutellum distinctly reddish-yellow at apex ..... Genus *Muscina* Desv.

— Discal vein running straight to wing-margin, or if curved forwards at wing-tip then scutellum without trace of reddish-yellow at apex....7

7. Facial ridges setulose almost up to base of antennae; cubital vein usually setulose about half-way to small crossvein; discal vein strongly curved forwards, so that greatest width of first posterior cell is three times width at apex.....Genus *Graphomyia* Desv.

— Facial ridges at most setulose half-way up from vibrissae to base of antennae, more often almost bare; cubital vein with at most only a few setae at junction with radial vein; when discal vein is curved forwards, greatest width of first posterior cell not more than twice width at apex 8

8. Anal vein short, not extending half-way from anal cell to wing-margin, and at the same time hind tibiae with a well developed isolated *true* dorsal bristle in addition to the preapical bristle; middle tibiae of males with long or short, more or less dense erect pubescence beneath; female orbits broad, convex towards middle of frons, and with two pairs of strong upper orbital bristles of which the front pair are turned outwards (less distinctly so in *Piezura*); costa bare beneath..... ..... FANNIINAE

— Anal vein extending much further than half-way from anal cell to wing-margin, or if abbreviated (*Azelia*) then hind tibiae without an isolated dorsal bristle in addition to the preapical; middle tibiae of males without erect pubescence beneath, at most with short pubescence anteriorly; female orbits not as above; costa often hairy beneath....9

9. Hind tibiae with one or more strong bristles which are slightly the posterior side of dorsal, but not true *postero*-dorsal, or if without then either (*Azelia*) anal vein conspicuously short (not extending half-way from anal cell to wing-margin), or (*Hydrotaea armipes*) front femora notched and toothed beneath at apex (♂), or frontalia with strong crossed bristles and at the same time only one hind sternopleural bristle (♀); abdomen generally with median stripe and often with shifting pruinose pattern, but never with fixed paired spots (except very indistinctly in *Phaonia cincta*); when discal vein is somewhat curved forwards at wing-tip (some *Hydrotaea* species) arista only pubescent..... PHAONIINAE

— Hind tibiae without strong *near*-dorsal bristles, though one or more true *postero*-dorsal bristles may be present; anal vein always extending much further than half-way from anal cell to wing-margin; front femora of males never notched or toothed beneath at apex, and female frontalia without strong crossed bristles, or if occasionally with (*Myiospila*) then more than one strong hind sternopleural bristle; abdomen often with fixed paired spots; when discal vein is curved forwards at wing-tip (*Myiospila*) arista plumose.....MYDAEINAE

II. Tables of Genera

MUSCINAE

1. Proboscis retractable into mouth-opening, not horny, always with distinct (though sometimes small) terminal labellae.....2

— Proboscis not retractable into mouth-opening, very strongly chitinised, horny, and with the terminal labellae extremely small and inconspicuous.....10

2. Discal vein bent or curved forwards at wing-tip.....3

— Discal vein running straight to wing-margin, at least not curved forwards at tip.....8

3. Bend of discal vein angular, though actual bend may be somewhat rounded 4
— Discal vein bent in a smooth curve 5

4. Shining green species; rounded knob beneath wing-base distinctly hairy ..... *Orthellia* Desv.
— Species of different colour; the above knob bare..... *Musca* L.

5. Species shining blue or green, at least on abdomen..... 6
— Species of different colour..... 7

6. Only the posterior intra-alar bristle strongly developed; costa bare beneath except at base ..... *Pyrellia* Desv.
— An anterior intra-alar (opposite supra-alar bristle) strongly developed; costa hairy along whole length beneath..... *Dasyphora* Desv.

7. Large shining black species without pruinosity, with golden-yellow cheeks and strongly yellow wing-base; cubital vein entirely bare.... ..... *Mesembrina* Mg.
(One species—*meridiana* L.)
— Distinctly pruinose species, with cheeks whitish pruinose and wing-base not especially yellow; cubital vein with at least a few setae at junction with radial vein, often more extensively setulose..... *Morellia* Desv.

8. Prosternum (between front coxae) broadly hairy on side-margins; cubital and discal veins strongly diverging..... *Polietes* Rond.
(One species—*lardaria* F.)
— Prosternum bare; cubital and discal veins at most only slightly divergent 9

9. Cubital vein with some setae near junction with radial vein; thorax seen from behind with a single broad whitish pruinose median stripe in front of suture ..... *Pseudomorellia* Ringd.
(One species—*albolineata* Fall.)
— Cubital vein bare; thorax seen from behind with three distinct light pruinose stripes ..... *Pseudophaonia* Mall.

10. Palpi short, not more than one-third as long as proboscis; pteropleuron hairy ..... *Stomoxys* Geoffr.
(One species—*calcitrans* L.)
— Palpi long, not or hardly shorter than proboscis; pteropleuron almost or quite bare..... 11

11. Subcostal vein setulose; notopleuron hairy..... *Haematobia* Desv.
(One species—*stimulans* Mg.)
— Subcostal vein and notopleuron bare..... *Lyperosia* Rond.
(One species—*irritans* L.)

Phaoniinae

The genus *Azelia*, having no "dorsal" bristle on the hind tibiae, has hitherto usually been placed in the Mydaeinae. Mr. J. E. Collin, however, has drawn attention (*in litt.*) to the fact that the presence of bristly-hairs on the posterior face of hind coxae, together with other characters (including the type of male and female genitalia), indicates a definite relationship with the *Lasiops*-group of the Phaoniinae, in which subfamily it is placed by Hennig (1955).

1. Subcostal vein setulose on apical half; almost entirely yellow species.. ..... *Acanthiptera* Rond.
(One species—*inanis* Fall.)

— Subcostal vein bare.....2

2. Hind coxae with bristly-hairs on posterior face.....3

— Hind coxae without bristly-hairs behind.....5

3. Anal vein much abbreviated, not extending half-way from anal cell to wing-margin, and uniformly thick almost to apex.....*Azelia* Desv.

— Anal vein long and tapering, extending much further than half-way from anal cell to wing-margin.....4

4. Legs at least partly yellow.....*Alloeostylus* Schnb.

— Legs entirely black ..... *Lasiops* Mg.
(Including *Hera*, *Trichopticus*, *Rhynchotrichops*)

5. Hind tibiae with numerous equally strong near-dorsal bristles (somewhat the posterior side of dorsal, but not true *postero*-dorsal); arista pubescent or almost bare 6

— Hind tibiae with only one isolated strong near-dorsal bristle, at most with 1-2 short weaker ones towards base, rarely with none.....8

6. Proboscis long and thin, with the long slender labellae normally doubled back; mouthedge strongly protruding.....*Drymeia* Mg.
(One species—*hamata* Fall.)

— Proboscis not as above 7

7. Proboscis short with large terminal labellae, latter not much shorter than theca; eyes densely long-haired (♂), very short-haired (♀); arista bare ..... *Trichopticoides* Ringd.
(One species—*decolor* Fall.)

— Proboscis long, terminal labellae hardly half as long as theca; eyes bare in both sexes; arista distinctly though shortly pubescent..... .....*Pogonomyia* Rond.
(One species—*brumalis* Rond.)

8. Sternopleural bristles 1:1, lower hind one absent or inconspicuous, or if lower hind one more or less developed then discal vein slightly but distinctly curved forwards at wing-tip; arista pubescent or bare; female frontalia with strong crossed bristles.....9

— Sternopleurals not 1:1, at least one lower hind one well developed; discal vein not curved forwards at wing-tip; female frontalia more often without crossed bristles 10

9. Shining blue-black species without pruinosity; male front femora simple; female frons with the shining ocellar triangle extending more than half-way from front ocellus to lunule.....*Ophyra* Desv.

— Grey or blackish-grey pruinose species, or if shining blue-black then either thorax and abdomen with some distinct whitish pruinosity, or female frons with the ocellar triangle not extending half-way from front ocellus to lunule; male front femora notched and toothed beneath at apex.....*Hydrotaea* Desv.

10. Prealar bristle well developed, or if weak or absent then either arista plumose, or (when arista only pubescent) halteres dark and at the same time middle tibiae with only two posterodorsal bristles.....11

— Prealar bristle absent or inconspicuous, and arista only pubescent; halteres yellow, or if dark then middle tibiae with three posterodorsal bristles 12

11. In male, orbital bristles stopping well short of ocellar triangle, uppermost pair weak and not curved backwards, or if orbitals extend more or less to ocellar triangle then eyes well separated (frons more than half as broad as an eye) and scutellum hairy beneath; in female, the strong anterior pair of orbital bristles incurved like the rest..*Phaonia* Desv.

— In male, orbital bristles extending almost up to ocellar triangle, uppermost pair strong and curved backwards, eyes separated by much less than half eye-width, and scutellum bare beneath; in female, the strong anterior pair of orbitals pointing forwards in contrast to the rest.....*Dendrophaonia* Mall.

12. Entirely shining black species with three strong bristles behind middle tibiae; male eyes densely hairy and well separated (frons about half eye-width); halteres dark.....*Dialytina* Ringd.
(One species—*atriceps* Lw.)

— Distinctly pruinose species with only 1-2 strong bristles behind middle tibiae; male eyes sparsely short-haired and closely touching; halteres yellow.....*Lophosceles* Ringd.

Fanniinae

1. Arista plumose.....*Piezura* Rond.
(One species—*graminicola* Zett.)
(Syn.: *pardalina* Rond.)

— Arista pubescent or bare.....2

2. Mouthedge strongly protruding; male abdomen broadening out from base to shortly before apex.....*Coelomyia* Hal.
(One species—*mollissima* Hal.)

— Mouthedge not or hardly protruding; male abdomen normal.....
.....*Fannia* Desv.

MYDAEINAE

1. Discal vein curved forwards at wing-tip; female frontalia with distinct crossed bristles..... *Myiospila* Rond.
(One species—*meditabunda* F.)

— Discal vein running straight to wing-margin; frontalia without crossed bristles.....2

2. Prealar bristle absent or inconspicuous; thorax not four-striped, or if sometimes with four indistinct stripes (some species of *Hebecnema*) then thorax and abdomen with extremely thin pruinosity and distinctly shining; only one front sternopleural bristle; costal spine usually small and inconspicuous 3

— Prealar bristle well developed, or if absent or inconspicuous then a very distinctly pruinose species without shine and with four distinct dark stripes on thorax; often two front sternopleurals present; costal spine usually strong 8

3. Arista plumose, with some hairs usually at least as long as 3rd antennal segment is wide; abdomen with at most only very faint traces of paired spots and hind femora without posteroventral bristles.....
.....*Hebecnema* Schnb.

— Arista usually pubescent or bare, but if longer-haired then hairs not more than half as long as 3rd antennal segment is wide, and in this case either abdomen thickly pruinose with strongly marked paired spots, or hind femora with long fine posteroventral bristles on basal half....4

4. Prosternum (between front coxae) with distinct, even though small, bristles on each side-margin, and at the same time cubital vein entirely bare; frons with broad orbits and large ocellar triangle so that frontalia is reduced to a narrow strip on each side.....
..... *Neolimnophora* Schnb.

— Prosternum entirely bare, or if bearing small bristles or hairs on sides then cubital vein with some small setae at least at junction with radial vein; frons not as above.....5

5. Cubital vein with at least a few setae at junction with radial vein; prosternum with minute bristles or hairs on sides..*Limnophora* Desv.

— Cubital vein and prosternum entirely bare.....6

6. Head in profile with the cheeks (facial orbits) quite or almost invisible about middle.....*Gymnodia* Desv.
(One species—*humilis* Zett.)

— In profile cheeks conspicuously evident along whole length.....7

7. Face short and very concave; head seen from in front with the vibrissal angles somewhat above mouthedge and distinctly approximated.... ..... *Villeneuvia* Schnb.
(One species—*aestuum* Villen.)
— Face longer and flatter; vibrissal angles near to mouthedge and not so approximated..... *Spilogona* Schnb.

8. Cubital vein with one or more small setae at junction with radial vein, both above and beneath wing; abdomen usually with a median stripe and often with shifting pruinose pattern, but (in British species) without fixed paired spots ..... *Mydaea* Desv.
— Cubital vein always entirely bare on upper side of wing, occasionally with a few setae at base beneath; abdomen more often with fixed paired spots on the middle tergites ..... *Helina* Desv.
(Including *Enoplopteryx* Hend.)

Coenosiinae

(Table based on Ringdahl)

1. Wings broadly darkened along front margin; scutellum without bristles at base; hind tibiae with a posteroventral apical bristle..... ..... *Orchisia* Rond.
(One species—*costata* Mg.)
— Wings clear, at most somewhat milky, or if darkened on foremargin then scutellum with a basal pair of bristles and hind tibiae without a posteroventral apical bristle.....2

2. Frons distinctly broader than long.....*Schoenomyza* Hal.
(One species—*litorella* Fall.)
— Frons normal, longer than broad.....3

3. Costa extending only to apex of cubital vein.....*Allognota* Pok.
(One species—*agromyzina* Fall.)
— Costa extending to apex of discal vein.....4

4. Thorax with two presutural dorsocentral bristles, front one more than half as long as second.....5
— Only one presutural dorsocentral, or if two are present then front one not much more than one-third the length of second; postvertical bristles strong, about as long as (or longer than) ocellar bristles....9

5. Postvertical and ocellar bristles about equal in length; male 5th sternite tube-like, projecting downwards ..... *Macrorchis* Rond.
(One species—*meditata* Fall.)
— Postverticals much shorter and weaker than ocellar bristles; male 5th sternite not as above 6

6. Antennae and legs at least partly yellow.....*Lispocephala* Pok.
— Antennae entirely black, legs usually black.....7

7. Four postsutural dorsocentral bristles; an extra (shorter) bristle beneath front sternopleural; tibiae yellow.....*Paracoenosia* Ringd.
(One species—*abnormis* Stein)

7. Three postsutural dorsocentrals; only the normal three sternopleurals; legs entirely black 8

8. Ocellar triangle extending to base of antennae; male with frons as broad as an eye and with broadly oval abdomen.....*Limnospila* Schnb.
(One species—*albifrons* Zett.)
— Ocellar triangle hardly reaching to middle of frons; male with frons about half as broad as an eye, and with almost cylindrical abdomen.. .....*Pseudocoenosia* Stein
(One species—*longicauda* Zett.)

9. Ocellar bristles fine and hair-like; scutellum without bristles at base, and antennae entirely or mainly yellow.....*Spanochaeta* Stein
(One species—*dorsalis* v. Ros.)
— Ocellar bristles strong; scutellum with a basal pair of bristles, or if without then antennae black 10

10. Two presutural dorsocentral bristles, front one one-third to a half the length of second; male with abdomen more or less oval and hypopygium not very conspicuous.....*Dexiopsis* Pok.
— Only one presutural dorsocentral, or if occasionally with two then front one less than one-third the length of second; male abdomen usually more or less cylindrical with hypopygium much in evidence..... .....*Coenosia* Mg.

Anthomyiinae

1. Hind tibiae with a strong posteroventral apical bristle in addition to the normal anteroventral one. (This posteroventral bristle is quite distinct from and considerably longer than the setae forming the posteroventral "comb" at apex of tibia) 2
— Hind tibiae without this bristle, at most with a short weak one.....9

2. Anal vein not reaching wing-margin; light grey species with median thoracal stripe extending to tip of scutellum.....*Chelisia* Rond.
(One species—*monilis* Mg.)
— Anal vein always extending to wing-margin even though only as a faint trace; thoracal stripe, when present, not extending to tip of scutellum.....3

3. Arista very long plumose, with hairs much longer than 3rd antennal segment is wide 4
— Arista short-haired, pubescent, or bare, the hairs never as long as 3rd antennal segment is wide 5

4. Aristal hairs somewhat shaggy and more than uniserial above and below; proboscis noticeably stout, in profile as thick as or thicker than front femur; wings decidedly yellowish..... *Pycnoglossa* Coq.
(One species—*flavipennis* Fall.).
— Aristal hairs straighter and in a single row above and below; proboscis more slender; wings almost clear ..... s.g. *Hylemyza* Schnb.
(One species—*lasciva* Zett.)

5. Middle tibiae with one or more anteroventral bristles, or if without then at least postsutural acrostichals hardly distinguishable from thoracal hairs, and prealar bristle as long as supra-alar 6
— Middle tibiae without bristles anteroventrally, and either postsutural acrostichals well developed, or prealar bristle much shorter than supra-alar 7
6. Acrostichal bristles well developed, or if somewhat hair-like then abdomen mainly shining black with little pruinosity ..... *Phorbia* Desv. (p.p.)
— Acrostichals absent or inconspicuous (except sometimes 1-2 before suture) and abdomen thickly pruinose, not shining .. *Botanophila* Lioy
7. Mouthedge sharply produced forwards; proboscis thin and shining black; male abdomen almost cylindrical ..... *Acrostilpna* Ringd. (One species—*latipennis* Zett.)
— Mouthedge not or hardly protruding; proboscis not especially thin .. 8
8. Scutellum very distinctly hairy beneath; mesopleuron with a well differentiated isolated bristle towards front of upper margin ..... *Craspedochaeta* Macq.
— Scutellum usually entirely bare beneath, but when some hairs are present these are extremely short and scanty; mesopleuron without an isolated bristle on upper margin; males with eyes always (often widely) separated ..... *Chirosia* Rond.
9. Scutellum at apex, antennae at base, humeri, abdomen and legs (except tarsi), yellow; arista plumose; male frons almost as broad as an eye .. *Mycophaga* Rond. (One species—*fungorum* Deg.)
— Not all the above parts yellow at one time 10
10. Eyes small, almost circular, and widely separated in both sexes; male hind femora with a well developed tubercle at base beneath; females with jowls below eyes distinctly more than half as deep as vertical diameter of eye, and at the same time arista almost bare, prealar bristle short but strong, and acrostichal bristles in two complete well developed rows ..... *Fucellia* Desv.
— Eyes more or less oval, vertical diameter distinctly greater than horizontal; male hind femora without the above tubercle; female jowls much narrower, or if rather broad then not all other characters as above 11
11. Male with hind metatarsus strongly swollen at base and distinctly curved, and with frons at vertex much broader than an eye; female with abdomen very thinly pruinose, blackish, and semi-shining, and with basal antennal segments reddish-yellow ..... *Myopina* Desv. (One species—*reflexa* Desv.)
— Male with hind metatarsus simple, and with eyes much more approximated, or touching; female with dull pruinose abdomen, or if blackish and somewhat shining then antennae entirely black 12
12. Scutellum light grey pruinose with a well defined black spot on each side, or black with a light grey median spot at apex 13
— Scutellum not as above 14

13. Thorax without stripes but with five large black elongate spots on a light grey ground; male abdomen distinctly flattened towards base; female frontalia with crossed bristles ..... *Anthomyia* Mg.
— Thorax with longitudinal black stripes; male abdomen conical, not flattened; female frontalia without crossed bristles. . *Eustalomyia* Kow.

14. At least the middle abdominal tergites with sharply defined black three-pronged transverse bands on foremargins, in the females often appearing as three isolated triangular foremarginal spots..... ..... *Calythea* Schnb.
— Abdomen differently marked..... 15

15. Cheeks and jowls conspicuously broad; costal spine absent or inconspicuous; proboscis matt pruinose; male eyes always distinctly separated; female frons usually not more than quarter head-width, but if broader then frontalia no wider than an orbit and without strong crossed bristles 16
— Cheeks and jowls usually not strikingly broad, but if they are then not all the other characters as above 17

16. Arista distinctly pubescent, or even plumose; females with eyes widely separated and with true (even though small) orbital bristles, front pair pointing forwards.....*Hammomyia* Rond.
— Arista bare, or at most microscopically pubescent; females with eyes almost as approximated as in the males, or if more widely separated then the orbital bristles absent.....*Hylephila* Rond.

17. Theca of proboscis shining black; head in profile rather angulated with frons and mouthedge somewhat prominent; arista almost bare; males with lobes of 5th sternite usually shining black, but if dull then with flat surface devoid of bristles or hairs; females with frons much narrower than an eye, or (when frons is broad) either with orbits not more than one-sixth the width of frons at middle, or with 5th sternite long and shining black in contrast to others.....*Prosalpia* Pok.
— Without the above combination of characters 18

18. Head rounded in profile, flat below, but with occiput strongly convex; face short and concave, with produced mouthedge; cheeks and jowls narrow; antennae very short, 3rd segment not or hardly longer than 2nd; sternopleural bristles 2:2, lower ones much weaker but always distinct; eyes widely separated in both sexes; small species, 4-4.5 mm. .....*Chiastochaeta* Pok.
— Without the above combination of characters 19

19. Lower (thoracal) squama protruding well beyond upper (alar); mouthedge not or hardly produced; eyes entirely bare; postsutural acrostichal bristles absent or hair-like, or if more or less developed then legs partly yellow..... 20
— Lower squama not protruding, or if somewhat longer than upper one then either mouthedge strongly produced, or eyes distinctly hairy, or postsutural acrostichals well developed and at the same time legs entirely black.....21

20. Arista long plumose; no small setae present near base of posterior notopleural bristle, nor on upper transverse ridge of hypopleuron; thorax with a pair of broad lateral stripes and usually with 1-3 more or less distinct narrow median stripes ..... *Hydrophoria* Desv.
— Arista pubescent, or if plumose then some small setae present about base of posterior notopleural bristle and usually also on upper transverse ridge of hypopleuron; thorax usually with three equally broad stripes, though these may sometimes be almost confluent when thorax appears black ..... *Acroptena* Pok.
21. Arista plumose, with some of the hairs as long as 3rd antennal segment is wide; prealar bristle as long as or longer than first dorsocentral bristle 22
— Arista pubescent or bare, or if long-plumose then prealar bristle distinctly (usually considerably) shorter than first dorsocentral.... 23
22. Frontalia without trace of crossed bristles; legs extensively yellow.... ..... *Pegomyza* Schnb.
— Distinct bristles on frontalia in both sexes; legs almost entirely black.. ..... *Pegoplata* Schnb.
23. Arista very long-plumose, with some of the hairs much longer than 3rd antennal segment is wide ..... *Hylemyia* Desv. *sens. strict.*
— Arista short-haired, pubescent, or bare, the hairs always distinctly shorter than 3rd antennal segment is wide 24
24. Males without trace of bristles on frontalia, and if a female with such bristles then legs partly yellow; both sexes with costa hairy along whole length beneath; arista microscopically pubescent or bare, or if with longer hairs then pteropleuron with an isolated strong bristle on upper margin 25
— Both sexes with distinct (in males often extremely small) crossed bristles on frontalia; costa bare beneath, at least beyond end of subcostal vein, or if with hairs along whole length beneath then either legs entirely black, or arista long-pubescent and at the same time pteropleuron without an isolated bristle on upper margin 26
25. Arista strongly pubescent, with hairs quite twice as long as thickness at base; pteropleuron with an isolated strong bristle on upper margin behind; anal vein often extremely faint towards wing-margin..... ..... *Emmesomyia* Mall.
— Arista microscopically pubescent or bare; pteropleuron without such a bristle; anal vein always distinct right to wing-margin..... ..... *Pegomyia* Desv.
26. Arista with some hairs more than half as long as 3rd antennal segment is wide; middle tibiae with two posterodorsal bristles; only one front sternopleural bristle..... s.g. *Leptohylemyia* Schnb.
— Arista short-pubescent or bare, or if with some of the hairs more than half as long as 3rd antennal segment is wide, then either middle tibiae with only one posterodorsal bristle, or two front sternopleurals present 27
27. Middle tibiae with one or more anteroventral bristles..... 28
— Middle tibiae without bristles anteroventrally..... 33

28. Smallish black species with only little pruinosity, distinctly shining (especially in females), and with mouthedge not or hardly protruding; male abdomen either flattened at base and strongly clubbed at apex, or almost cylindrical; female ovipositor laterally compressed, strongly chitinised and shining black, upper branch more or less sickle-shaped ..... *Phorbia* Desv. (p.p.)
— Distinctly grey pruinose species, or if mainly blackish and somewhat shining then either mouthedge strongly protruding, or a male with abdomen flattened but not strongly clubbed; female ovipositor not laterally compressed or strongly chitinised.....29

29. Mouthedge strongly protruding.....30
— Mouthedge not or hardly protruding.....31

30. Blackish species with only little pruinosity, abdomen distinctly shining; prealar bristle more than half as long as supra-alar..... ..... *Heterostylus* Schnb. (♀♀)
— Distinctly pruinose species; prealar bristle not or hardly half as long as supra-alar ..... *Egle* Desv. (p.p.)

31. Middle tibiae with only one posterodorsal bristle; crossveins usually slightly clouded; male abdomen oval-cylindrical..... ..... s.g. *Subhylemyia* Ringd. (One species—*longula* Fall.)
— Middle tibiae with two posterodorsals; crossveins not clouded; male abdomen distinctly flattened 32

32. Male front tibiae with a strong blunt posteroventral apical bristle; female middle tibiae with 2-3 anteroventral bristles..... .....**Delia lamelliseta* Stein
— Male front tibiae without this bristle; female middle tibiae with only one anteroventral ..... *Pegohylemyia* Schnb. (p.p.)

33. Mouthedge strongly protruding and somewhat upturned, or if only moderately so then proboscis noticeably thin, and antennae conspicuously short and inserted well below middle of eye; middle tibiae with at most only one anterodorsal bristle.....34
— Mouthedge not or hardly protruding, or if somewhat produced then either proboscis not particularly thin, or antennae of normal length and inserted at about middle of eye, or middle tibiae with two strong anterodorsal bristles 35

34. Prealar bristle less than half as long as supra-alar, or if more than half as long then femora densely haired beneath and thorax with four postsutural dorsocentral bristles.....*Egle* Desv. (p.p.)
— Prealar bristle more than half as long as supra-alar, femora not especially hairy and thorax with only three postsutural dorsocentrals; wing-base extensively blackish ..... *Heterostylus* Schnb. (♂♂)

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* *Delia lamelliseta* is here keyed out separately as it appears likely that this species may ultimately be referred to a distinct genus or subgenus. Although the male possesses the blunt apical spur to front tibiae and *Delia*-type of genitalia, both sexes exhibit other characters which do not belong to *Delia*.

35. Hind tibiae with only two pairs of dorsal bristles (i.e. two antero- and two postero-dorsal); wings clear; male eyes quite or almost touching ..... *Nupedia* Karl

— Hind tibiae with three or more anterodorsal bristles, or if a male with less than three anterodorsals on hind tibiae then wings distinctly yellowish and eyes separated by about width of 3rd antennal segment 36

36. Costa hairy along whole length beneath, and middle tibiae with only one posterodorsal bristle; prealar bristle about as long as first dorsocentral; lower hind sternopleural short and fine, sometimes absent..... ..... *Erioischia* Lioy

— Costa bare beneath, at least beyond end of subcostal vein, or if hairy along whole length beneath then middle tibiae with more than one posterodorsal bristle 37

37. Mesopleuron with an isolated stronger bristle towards front of upper margin (less developed in males), and either males with only one posterodorsal bristle on middle tibiae, or females with lower front sternopleural bristle as long as or longer than lower hind one; eyes often distinctly hairy..... *Lasiomma* Stein

— Mesopleuron without this isolated bristle on upper margin, or if occasionally with then middle tibiae with two posterodorsals and lower front sternopleural (when present) distinctly shorter and weaker than lower hind one; eyes bare..... 38

38. Middle tibiae with only one posterodorsal bristle (sometimes without), or if with more than one, then either a male with wing-base distinctly blackish and with prealar bristle about as long as supra-alar, or a female with anteroventral bristles on apical half only of hind femora, or with two anterodorsal bristles on middle tibiae and prealar bristle less than half as long as first dorsocentral..... *Delia* Desv.

— Middle tibiae with two posterodorsal bristles and hind femora with anterodorsals along almost whole length; if a male with blackish wing-base, prealar bristle hardly half as long as supra-alar; if a female with two anterodorsals on middle tibiae, prealar about as long as first dorsocentral..... *Pegohyelmyia* Schnb. (p.p.)

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